



# GEORGE ENGELMANN BOTANICAL NOTEBOOKS

*Pagination Note:  
Since many of the items lack a specific  
page number, the page number displayed  
online refers to the sequentially created  
number each item was given upon  
cataloging the materials.*

287. *Psychotria coriacea* (Lam.) glauca, foliis  
infundibuliformis, apiculatis, obovato-lanceolatis, superius  
linearis minutis, ramos exs. pinnatis oppositis  
elongatis 2 bracteatis foliis glandulosis  
segmentis obovatis molles (succulent), fabo  
superior sessilis, lacinia bracteata, superiore  
et media bifida, staminis interstitiis anthers  
divaricatis, filamenta sterili glabri, apice dilatata  
capsule conniventes.

Llanos - Oct 6 - Near P. in the hills

Stem nearly naked above, flowers few  
1-2' long the lower ones with long the flowers, flower  
15-18" long, bright scarlet - a beautiful  
plant.

535. *Pinus edulis* n.sp. Pinus folioides vaginatum  
caerulea varia revoluta domini dendrois foliis  
binis (varissime tenuis), brachis incurvatis, supra  
succinatis obliquis glaucis subtilis convexis striatis,  
vires tenuis, subtilis erectis cretis alteratis,  
sequamis. D. latatis tuberculatis, incisibus,  
semicirculis obvatis magnis, ad libitum teste feruere.

Not so common as No. 534 but not rare for the  
Cimarron to Santa Fe, - small tree 10-20 or about  
30 feet high, trunk of 10 foot diameter, leaves 12-18  
inches long, concave when young, but with a strong middle  
carina on the upper surface, when young -  
cones nearly  
globose, about 18 cm. - diameter, scales thick, nearly  
rhombic, but not spinous, seeds about 6" long and 4"  
- diameter, very shell than the base of hyaline,  
kernel when slightly baked very pleasant.

A near relative to this is  
Gregg: 321. *Pinus osteosperma* n.sp. vaginatum obviate  
caerulea varia revoluta domini dendrois foliis tenuis  
binis, brachis, tuberculatis, incisibus, marginis

0  
cm

1

2

3

4

5

6

7

8

9

10

copyright reserved

MISSOURI  
BOTANICAL  
GARDEN

water meadow

leucobryum, saproxylophus striatus, *temis* super glandulosa  
(*temis* carinatus) subtilis viverrantibus, *schistilis*  
sessilis, *higloboris*, *nummularia* muricata.

Small tree 10-20' high on the cattle feed of  
Brennero to ~~and~~ on Mounti Goundy, a short  
Hill, leaves 1-2 in. long, mostly straight  
or <sup>twisted or</sup> in threes, much more slender than the former's  
species, nut of the same size but much harder  
(with taste single leaves, and ovate oblique adpressed scales of the young shoots)  
Both species belong with *Pinus monophylla* (discovered  
by Capt. Hunt - California to a northern section  
of this genus, representing in the west Central  
*Pinus* <sup>Cembra</sup> ~~Pinus~~ of the eastern. ~~W. H. A. Reddick~~  
perhaps the same as Tamm's *Pinus flexilis*, longs ex parte  
II. p. 27 & 35. Tamm's ~~the~~ <sup>the</sup> ~~long~~ <sup>long</sup> New York II, 249. ? The leaves  
in ours are <sup>mostly</sup> in threes, rarely - threes, never in  
fives, but the description of the nut <sup>not</sup> perfectly agrees.

The most common Pine on the Mountains of New Mexico is the Rock creek tree - a large and fine  
tree 30 to 100 feet high - 2 to 3 feet  
in diameter. Leaves 6" long, mostly black, densely  
covered with short hairs, rough 3/4 to 1" wide  
in one species, downy 2 1/2 to 3 1/2" long, seeds about  
length without wings, 3-4" long & 2" wide



0  
cm

copyright reserved



margine serrulatis; strobilis ovata, absente,  
squamis transverse ovatis remisibus.

The common pine of Cos. *guanajuatensis*, 7000' high;  
tree 30 to 50' high, leaves when old entire without  
expansive sheath, mostly 3-lobed, 2-3½ in. long,  
serrulate on the margin but with <sup>nearly</sup> smooth surface  
cone before us, 1½ in. long, oval conical.

233 *Pinus macrophylla* *guanensis* *tarionum* longe  
acuminatis <sup>possibly</sup> *fulvata* *laevigata* *squamosa* *vaginata*  
*elongata* *adpressa* *lanceolata* <sup>wagmatlana</sup> *confusa*  
(*variorum* *quadrifida*) *longistylis* <sup>margine carinata</sup> *serrulata*  
atropurpurea *strobilis* *oblonga* *oblonga* *oblonga*  
atropurpurea *strobilis* *oblonga* *oblonga* *oblonga*  
subg. *lanceolata* *strobilis* *ovata* *conica*, *strobilis*, *tarionum*  
*squamosa* *macrophylla*, *macrophylla* *tarionum*  
revenue *spinosus*, *securus* *oblonga*  
Common

On the highest Mts. about Cos. *guanajuatensis*.

70-80 feet high; sheath 15 to 20 cm. long, leaves  
13 to 15" long - in an specimen, one 4½" long;  
scales with rounded mammilliform tubercles, which  
have a spine on top. - Hardly near *P. aculeata*,  
Mx. but probably distinct.

234 *Pinus Strobfornia* *guanensis* *tarionum* *ovata*  
acuminatis; *vaginata* *laevigata* *petiolaris*, *adpressa*, *folia*,  
*filiformis* (*quadrifida*), *apicula* *ovata* *serrulata*  
~~albido-~~ *lanceolata*, *subtus* *convexa* *laevigata*  
*viscidula*, *margine* <sup>apicula</sup> *ind* (*lepidina* *sublancea*  
*serrulata*); *strobilis* *oblonga*, *elongata*,  
*guanensis* *oblonga* *remisibus* *deinceps* *reniformis*.

Very rare on the highest Peaks about Cos. *guanajuatensis*  
8000' 100 to 130' high, - the largest Pine in this  
region. - Hardly distinct from *P. macrophylla*,  
which has more distinctly serrulate leaves, and  
which have generally only two white lines on  
each side of the carina - while ours has 3



0

1

2

3

4

5

6

7

8

9

10

cm

copyright reserved



MISSOURI  
BOTANICAL  
GARDEN

*P. un. Shrub foliis dorsi concava* sensu  $\Delta$   
*P. Shrub foliis dorsi concava s. plan sensu*  $\Delta$   
*P. planis foliis dorsi concava* s. lige  
and ~~conus~~ smaller — Our species has  
sheaths 6 lines long, very downy, leaves 2-3" long  
at the base (mostly 3") Cone about 10" long  
similar to *P. Nobis*, also very resinous  
leaves more crowded than — Shrub and in  
consequence the bracts not as smooth, but  
~~smooth~~ <sup>rough</sup> ~~smooth~~ <sup>deep</sup> ~~smooth~~  
~~smooth~~ <sup>smooth</sup> ~~smooth~~ <sup>smooth</sup> ~~smooth~~  
upper part of scale triangular acute, obtuse ~~near~~  
scale about 6 lines long, very a little larger

Notes on some other Pines in my Herbarium

*Pinus*

Alabama Buckley

sp. var. ovat. acut. leaves puberul., vagin. elongat.  
adpress. leaves Demerit. ~~puberul.~~ <sup>ovidibus</sup> foliis  
binis terminis semelatis utrinque aspero-  
striatis

leaves about 4" long, sheaths at first 5-6" long  
at last about 1 line long.

*Pinus* Houston Texas 1840 like

sp. var. ovat. acut. spiculosis puberul. leaves  
subpersistentibus; vagin. elongat — —  
foliis binis (rarely binis) terminis semelatis  
utrinque <sup>ovidibus</sup>, aspero- striatis

Probably the same as last — but all in Spring  
as young sheaths — old ones longer 5" long; scales  
persistent, reflexed; leaves 6-7" long — Only  
difference more persistent scales, longer sheaths,  
longer as terminal leaves.

*Pinus* (Inops) Philadelphia 1832.

sp. var. binis semelatis frequentes foliis;  
vag. binibus adpresso, dense leaves patulis; <sup>reflexibus</sup>  
foliis binis terminis <sup>may be</sup> ~~ovato~~ semelatis  
utrinque aspero- striatis.

Leaves 1-3" on the same specimen, more  
slender and thin than in any of the above —  
young branches glaucous. Very remarkable  
on account of leaf-like scales on young branches  
of old trees



0  
cm

1

2

3

4

5

6

7

8

9

10

copyright reserved



MISSOURI  
BOTANICAL  
GARDEN

*Pinus variabilis* = *mitis* Atkaasas Aug. 1835

sg. tenui acuminatis respondens planis, vagi  
elongatis, adpresso, dense subdeciduis <sup>atrange</sup> fol. binis  
varies tenuis angusti. semolatis asperolucatis  
asperrimatis

young sheath 5" down 2" long, leaves thin  
leaves 3-4"

*Pinus Banksiana* "Manito island, Aug. 1840

sg. tenui . . . . vagi abbreviatis adpresso,  
foliis rigidis <sup>brunibus</sup> binis, margini asperatis, stramineo  
viridis, annulis asperolucatis . . . strobili  
erectis ovali - conicis, squamis reticulatis spinulosis  
sheath 1-1½" long by leave 6-14" long, only  
p. 12" - very rigid - margini convex before  
me 15" long

*Pinus Cambra* Aetai

sg. tenui elongatis acuminatis, obtusatis; vagi  
abbreviatis deciduis, foliis quinque margini  
semolatis, viridis, infra laevibus, supra  
lineatis

sheath 1½-2" long, leaves 1½ - 3"

*Pinus maritima* Frans

sg. tenui acuminatis squamosis, persistentibus,  
vagi elongat adpresso. fibrat, dense subdeciduis  
foliis binis rigidis elongatis; margini ex  
asperatis; atrange viridis lucatis

sheath 8", fully 3" - leaves 4½ - 6½" long  
margini ex striae in the long somewhat rough  
but not to the touch - In young shoots  
squameous leaflike as in *P. inops*.

*Pinus sylvestris* Germany

sg. tenui obtus. acut, & acuminat squamosi, "  
vagi elongat. adpresso facies, dense abbreviatis  
foliis binis rigidis brunibus, margini semolatis, atrange



cm

copyright reserved



MISSOURI  
BOTANICAL  
GARDEN

*tenissimum striatiss.*, strobilis recurvus  
sheaths 5" finely hairy 1" long, leaves  $1\frac{1}{2}$ " -  $3\frac{1}{2}$ "  
long — strie outside strong, then inside,  
finely asperate

*Pinus Pumilio* Bohemia

sheath amount squamose persist.

vagin. appressi lacinias denser attenuate,  
fol. bracts <sup>rigid</sup> may. similes utriusque tenissimum  
striatiss. strobilis erectis.

Sheath 4" finely hairy  $1\frac{1}{2}$ " — leaves  $1\frac{1}{4}$  - 2"  
striæ finely asperate

*Pinus monophylla* Torr & Gray California

sheath. ovatis obtusis appressis, vaginam lacinia  
lacinias crenato-rotundatis, denser decurrent, folia  
plumosa rigidis, bracts rigidis, rigidis rotundatis  
striæ striatis, laevibus (bracts supra viciis)  
strobilis erectis (ovato-globoso) squamis pyramidatis  
semicirculis rugosis obvortis, edulis  
leaves  $\frac{3}{4}$  - 2" long., sheaths 1" long.

*Pinus flexilis* James coll. by Trelawny, but he  
belongs to the *Strobilus* tribe 5 leaves, appressed squamose  
ones, but the seeds are large, ed. ble, the leaves  
short rigid, with white lines on the upper side and a  
convex smooth under side, and not serrated on the  
edges — this they are distinguishable from *Strobilus*  
& *Monophylla* (vide supra) — sect of leaf   
leaves 1-2 $\frac{1}{2}$ " long. Cones: 6-7" long

Notes on Pines, especially Tindley's from Santa Fe

Feb 1849

compare Notes on Willigem's Plants, pag

*Abies grandis* - but this has broader and the bracts of scales 21 ft

*Pinus concolor* var. sp. 828 Near *Pinus balsamea*, but apparently distinct; leaves larger, broader, wider, growth more vigorous. Cones shorter, obtuse, scales broader, seeds twice as large with much larger wings

*Folii solitariis, p[er]i distichis, planis, apice  
incurvis, sub[er]as et supra versus apicem et  
sub[er]as carinatis, apice rotundatis s. acutis-  
cunis (nec emarginatis) at runcu[re] tenuiter  
plus minusve albo punctatis. - Strobilis erectis sessilibus  
ovato-cylindricis squamis latissimis obovatis  
Denticulatis pubescentibus; bracteas obtusatis denticulatis superibus  
anibus, late triangulato alatis.*

On the higher parts of the mountains about Santa Fe, especially on their north declivities, while the south slope is occupied by Pines (Brachypteron), grows 50 to 80 feet high, of a regular pyramidal shape. Bark white, especially on young trees smooth - with many nodules or elevations which contain a balsamic resin. wood very hard. Leaves in young trees  $1\frac{1}{2}$  to 2 inches long very white on both sides, on old trees short,  $\frac{3}{4}$  to  $1\frac{1}{4}$  inch long, greener, but is either ~~or~~ <sup>equally</sup> of the same coloured on both sides! - Cones before me  $2\frac{1}{2}$  - 3 inches long and about  $\frac{1}{2}$  inch diameter larger scales fully one inch wide. seeds triangular of the same shape as those of *P. balsamea* but much larger, with the wing 9 lines long, wing 5 lines wide; seed itself as long as wing about 4 lines

Distinct from *P. balsamea* by the larger incurved unicellular oblique not emarginate leaves which are not conduplicate on the upper side or only near the base of the leaf; and by the cone



0 1 2 3 4 5 6 7 8 9 10

cm

copyright reserved



MISSOURI  
BOTANICAL  
GARDEN

larger order puberulent scales of the cones and larger seeds

*Pinus longiloba* N. 829. plus sub distichis,  
planis rectis & canis supra canaliculatis, viridis  
subus canaliculatis tenue <sup>glauco-</sup> ~~alba-~~ lineatis, obtusis acutis  
strobilis pendulis (Tend.) ovato-cylindricis,  
sparsa bracteis bifidis longe acutatis <sup>erectis</sup> squamas transverse  
obviate ovatas, repandae subtricostatae, supertibiis  
semimarginis obovatae, ala majori obovata instructis.

Mountains of Santa Fe. — The ~~large~~ trees about 7 feet in circumference, bark thin,  
scaly, ash-gray. wood of quick growth  
apparently white and soft, leaves 1-1½ in. wide  
long; cones before me 2 to 3½ inches long, <sup>1½ in. diameter</sup> bracts  
at base, exterior bracts linear, interior ones bivalve  
at base, and becoming similar to those at the base  
of the scales, which are acutely bifid, with acute  
on the outer side and fimbriate lobes, and  
the midrib being elongated in a long accumulation.  
Scales 10-12 lines wide, seed obovate, 2½ lines  
by without and almost 6 lines by with the obliquely  
ovate wing.

This tree comes nearer to *Pinus strobus* L. (or *Texelsiana*) than any other for North America  
known to me; it is the only one with persistent  
exserted bracts on the cones ~~in~~ N. America; but  
these bracts are erect, white in the European  
plant they are reflexed, and of another  
shape — the cone too is much smaller in  
the Santa Fe plant. — It can not be confounded  
with any other pine that I know of.

A specimen, collected by Fremont in his  
second *Pinus* expedition N. 853 resembles our  
species in the fruit and the shape of the bracts  
but the leaves are wider, shorter and not  
canaliculate above, and on both sides



0  
cm

1

2

3

4

5

6

7

8

9

10

copyright reserved

MISSOURI  
BOTANICAL  
GARDEN

with whitish punctate,

*P. nigra*

*Pinus nigra* N. 833 small trees on a  
crack near Santa Fe without specificatior  
seen only once — hardly different from *Pinus*  
*nigra* sit; young branches pubescent,  
leaves slightly curved quadrangular acute,  
whitish punctate between the famous between  
the green carinae.

In a cultivated specimen of *P. nigra* before  
me the leaves are five lines long, obtuse,  
hardly whitish, in the Santa Fe specim.  
they are 10-12 lines long, <sup>though of the same diameter</sup> and ~~are~~ <sup>are</sup> very whitish,  
much whiter and acute.

*Pinus edulis* 830. Additional remarks. A small  
tree, not more than 20 feet high, oft. shrubby and  
branching from the base, furnishes the greater part of  
the firewood about Santa Fe, wood hard, close grained,  
white of slow growth, bark thin, dark gray.

Scales of the young sheath ovate fimbriate, erect,  
very soon recurred and the thin membranous  
part deciduous, finally the whole sheath falling away  
Leaves very acute, mostly rigid, robust —  
but in one specimen before me much more slender.

*Pinus ponderosa* 831 called by me  
erroneously *P. buckleyana*. I add here:

*Pinus* ~~sub~~ <sup>sub</sup> *tenuis* *semilatis* margin asperis  
— *strobilis* erecto — *patentibus* — ~~semibas~~ *obovatis*,  
*lapidatis* ~~albus~~ <sup>is oblongo-oblanceolatus</sup> *semibas* *obovata* *strobilis* *obovata*  
*supermentibus*.

low hills as well as high mountains, about  
Santa Fe, especially on the dry or southern  
slopes. — is valuable timber tree, oft  
90 or 100 feet high, and of large dimensions.

Bark thick spongy red, album white and  
soft, wood reddish, 10 ft. — Leaves from



0

1

2

3

4

5

6

7

8

9

10

cm

copyright reserved



MISSOURI  
BOTANICAL  
GARDEN

most of  
6 to 8 inches long, in slender specimens (of young  
trees) not crowded on the end of the branches —  
cones only 2 inches long, thick, with very long and  
sharp spines <sup>above</sup> recurved spines. — Seed 3-4  
lines long, with wing 9 to 11 lines  
<sup>ramis flexilis</sup>

*Pinus flexilis* James <sup>Virginianus</sup> *lanceo-*  
*lates* *acuminatis*, *integris*, *erectis*; *vaginis* *laxis* *petulis*  
*cito* *evanescens*; *folii* *quadratis*, *filiformibus*,  
*rigidis*, *super* *albo*-*lineatis* *acute* *varicatis*,  
*obtusis* *convexis* (*viridibus* *laevibus*), *margine*  
*integris*; *strobilis* *cylindrica* *elongatis*,  
*pendulis*, *quamvis* *apice* *rotundatis*, *squamosis*,  
*semiviribus* <sup>obvolutis</sup> *majoribus*. —

Upper regions of the Mountains about Santa Fe  
— Tree 60-80 feet high — Branchlets extremely flexible.  
Leaves 1-2½ inches, mostly 1½ inches long, more  
rigid than in both *Strobus* & *Strobiformis* — Cones  
pendulous 6-7 inches long; — upper free part of  
scale semi-circular, squarrose — seed about  
5 lines long, wing apparently of the same length  
but wider.

In *Pinus strobiformis* the upper <sup>triangular</sup>  
free part of cone is somewhat <sup>triangular</sup> *oval*, *acute*,  
*obtusa*, *recurvata*; seed about 6 lines long, with  
the wing a little larger.

Q

—

1862

*Juniperus* N<sup>o</sup> 335 with fine leaves, more slender  
growth — " a <sup>the common</sup> <sup>Cedar</sup> shrub in mountain valleys about Santa Fe,  
near water courses, 12 to 15 feet high, branching from  
the base — one specimen seen measured 8 feet at the  
base of the trunk — circumference about 25 feet  
high — branches from the base much spreading. —  
A specimen of wood before me resembles the common  
red cedar, diameter 6 inches; bark red, smooth and  
tough; alburnum 1½-2 inches white; wood red,  
aromatic

MISSOURI BOTANICAL GARDEN  
GEORGE ENGELMANN PAPERS

Febo 1862

I. Parry collected 2 specimens of the following  
Comiferæ, too few for distribution. <sup>the following notes are purely  
for the use of balsamian</sup>  
*Abies grandis* Lindl. a common tree resembling much the eastern  
*Abies Douglasii* Lindl. ab. re. in though the east  
~~*Abies magnifica* Lindl.~~ Mt. district, except on the  
higher elevations. A very <sup>big</sup>~~large~~ <sup>of the range height of 80'</sup> tree with a graceful  
oval outline, the spreading branches curving upward  
at the extremities. Wood very <sup>of slow growth but</sup> compact,  
well suited to warp and work, turns reddish brown in drying.  
*Abies magnifica* Lindl. a fine shaped tree, <sup>with</sup>  
rather stiff outline, of rapid growth, wood very compact  
but rather coarsegrained & pitchy, the logs taper to rapid  
turning up to advantage. — Readily recognized by  
the very short ~~and~~ <sup>with</sup> stiff acute almost sparsous  
leaves.

*Abies nigra* Poir. <sup>Probably</sup> ~~the same as~~ <sup>the</sup> ~~standard~~  
<sup>(scales of the cones thin with ornate edge long on cones)</sup>  
northeastern tree, usually named *A. alba*, but  
which Prof. Gray has demonstrated to be the tree *A.*  
*nigra*. *A. alba* (with ~~extended~~ cones scales of the  
cylindrical cones thickened ~~on~~ <sup>with a</sup> the entire edge, leaves  
~~obtusifl.~~) seems to extend to the northern ranges  
of the Rocky Mts., though Dr. Hayden has not  
found it on the headwaters of the Arkansas & Colorado  
Rivers. ~~Dr. Gray is inclined to believe *A. nigra*~~  
~~for the ~~ab~~ on this with an ab. to be changed~~  
~~or a nearly allied species exists south of the~~  
~~for the headwaters for Dr. Hayden, above and including~~  
the Santa Fe (Fowler No. 233). — Dr. Parry found  
it covering almost the entire forest growth of the  
West-slopes of Mt. Park above the head of Grand C.  
"A magnificent tree 80-100 feet high, with an even  
(oblique) <sup>break</sup> below, tapering upward; 2-2' 1" diam.  
of rapid growth, wood remarkably white and soft, <sup>purple</sup>  
full of knots and little resinous <sup>+ bark scaly smooth</sup>  
prepared for inside work. <sup>color quite thin</sup>  
"with its <sup>and color</sup> rough brown bark & <sup>full of Tannin.</sup>



copyright reserved



MISSOURI  
BOTANICAL  
GARDEN

2 a. *Thunberg*

Could this be *Abies rubra* found at district for A. agia.  
*Pinus austro-Scoparia* in Adams Transact. vol 2. Confin  
tab. 5 & 6. Dr Parry had the good luck to discover <sup>fig 1</sup> this very peculiar and extremely alpine species  
which does not descend below the 9000 or 10000 feet  
on the <sup>heights</sup> ~~heights~~ of Clear Creek. As the Adams transaction  
& full description has been given it is unnecessary to enter here  
into details suffice it to say that it is our only  
species which belongs to Endlicher's *Pectiniferae* -  
*strobilus* (almost exclusively Mexican) His character is  
by the granitic leaves and horizontal oval cones with  
slight apophyses on the scales, small wing seeds  
& sheltered beneath it for a tree 40-50 feet high  
and 1-2 feet diameter, but it very rarely is  
seen on for only small bushes, often  
~~covered with cones.~~ <sup>Dr Parry</sup> of exceedingly slow  
growth. Dr Parry brought a stick back with little  
more than a inch diameter, showing nearly 50  
and many ~~last ones~~ some of them not more than  $\frac{1}{100}$  of  
a line wide!



0

copyright reserved



Act. Acad.  
2, 1862

representing my short remarks. ~~Puttall to be sure~~ however

The species has since been collected by his  
Contin of Michaux's *Sylvia* <sup>1849, Vol. 3, p. 107</sup> Tab 112 gives a  
poor figure of it and a somewhat descript. of it, which however  
clears up other doubts, which Dr Parry in his present  
expedition (1862) will definitely settle it is expected.

It has since been collected by my brother H.  
Engel on Bear Creek of the upper Platte  
and by Dr Hegi on the Muddy about headwaters of  
the Yellowstone ~~Platte~~ & Col. in various.

Dr Parry notes that the species occupies a lower range  
than the last one, ~~and~~ that the cones are semi-pendulous,  
(swung together) at the extremity of the long petiole bracts  
~~which is not the case with cones~~ ~~which~~ ~~it goes to the hill of 8000 or 9000 feet~~  
and is found sometimes ~~down~~ ~~down~~ to 80 feet high.  
in grassy places, cones.

The species before us is occurring intermediate  
between *Cembra* & *Striata* of Linckia and  
uniting them, as does *P. cembroides* of Newberry  
Calif. A. Rep. VI. Bot. p. 44. (not of Juniperus <sup>\*\* note</sup> ~~which~~ ~~which~~)  
place to which must be referred *P. Glauca* Schiede  
and *P. Osteosperma* Dugl., is one of the curious  
little group of American nutpines including *P.*  
*monophyllus* Torrey with one leaf *P. edulis* Eng. with  
2 leaves, *P. cembroides* just with nearly 3 leaves  
and *P. Parryana* Eng. <sup>\*\* note</sup> ( *P. Glauca* Torrey in  
Bot Mex Bur. p. 208 t. 53.) with ~~about~~ nearly 4 leaves.  
This group <sup>curiously natural</sup> is characterized by the greatest variability  
in the number of leaves, that can be found among pinaceae  
1-5 thus destroying the charts of Linckia groups  
taken for this number & small globose cones  
bearing large pyramidal apophyses, and large edible  
seeds, the wings of which remain attached to the



0  
cm

1

2

3

4

5

6

7

8

9

10

copyright reserved



MISSOURI  
BOTANICAL  
GARDEN

scale, ~~dark~~, I suspect is the ~~dead~~ <sup>allowing less</sup> "Pine seeds". *P. P. P.* <sup>however</sup> ~~dead~~ wing is very distinct, though small, and ~~dead~~ details itself clearly for the scale and soon also for the seed. <sup>itself</sup> which is also the case in the cones *P. Torreyana* ~~Parry~~ when the wing, ~~being~~ is very thick, <sup>and</sup> of a corky substance. —

[*Concordia*] of which this is not a mere form of *P. flexilis* appears by its short cones close to *P. ~~flexilis~~ <sup>Californica</sup>*. The large and edible seeds are, as I have already <sup>observed</sup> ~~observed~~ <sup>in</sup> D'Urge <sup>and</sup> ~~and~~, eaten by the Indians. Whether they are really *meagles*, a tree *Cambar*, remains to be seen. No better material is obtainable.

Do what the wood is another. I have a <sup>a tree</sup> ~~an~~ light <sup>colored</sup> ~~colored~~ <sup>site</sup>

*P. ponderosa* Douglas over the all the lower valley and less elevated districts of the Mts., associated with *Abies Douglasii* and *Macropisii*. — Much amounts of bark very long, <sup>1881</sup>

*P. contorta* Douglas "quite abundant on the most <sup>forming the purple part of the fruit when</sup> ~~abundant~~ <sup>of rapid growth</sup> ~~abundant~~ <sup>ridges & excluded near</sup> ~~ridges & excluded near~~ the snow line; — a symmetrical tree <sup>30</sup> or 40 feet high with stem tapering trunk, 6 feet in diameter, with a smooth, grey-brown bark, <sup>detached in</sup> ~~forming the~~ scales; and a tough but coarse wood, liable to warp, rarely put into boards".

MISSOURI BOTANICAL GARDEN  
GEORGE ENGELMANN PAPERS



0  
cm

1

2

3

4

5

6

7

8

9

10

copyright reserved



MISSOURI  
BOTANICAL  
GARDEN

Pines of Oregon etc.

coll. by Dr. D. Lyall 1858-69

Trans. Royal. Soc. Edin. Vol. 16 (1864)



0 1 2 3 4 5 6 7 8 9 10

cm

copyright reserved



MISSOURI  
BOTANICAL  
GARDEN

nature should so little care ~~about~~ for  
external objects which seem really ~~make~~ up  
part of our existence their laws of develop-  
ment and existence, their bearings on man  
pointed (question)

MISSOURI BOTANICAL GARDEN  
GEORGE ENGELMANN PAPERS

162887



0 1 2 3 4 5 6 7 8 9 10  
cm

copyright reserved



MISSOURI  
BOTANICAL  
GARDEN

Pines from Alaska

*Pinus Sitchensis* Donged ripe cones  
and male cones - Leaves flat like  
"Menziesii" to which the young closely resemble  
- a form of "Menziesii"! - some specimens  
have more pointed leaves and are easily - Menz

*Pinus contorta*

*Abies grandis* 3

*Cupressus Nudata*

*Abies Nudata*

*Thuja aggregata*



0 1 2 3 4 5 6 7 8 9 10

cm

copyright reserved



MISSOURI  
BOTANICAL  
GARDEN

10388

MISSOURI BOTANICAL GARDEN  
GEORGE ENGELMANN PAPERS



0 1 2 3 4 5 6 7 8 9 10

cm

copyright reserved



MISSOURI  
BOTANICAL  
GARDEN

Confere of Oregon etc

odgall

Proc. Linn. Soc. VI. 141 1864



0 1 2 3 4 5 6 7 8 9 10

cm

copyright reserved



MISSOURI  
BOTANICAL  
GARDEN

10389

MISSOURI BOTANICAL GARDEN  
GEORGE ENGELMANN PAPERS

APOTHECARY  
Marble Building Co

ALLEN



0 1 2 3 4 5 6 7 8 9 10

cm

copyright reserved



MISSOURI  
BOTANICAL  
GARDEN

Pinus 1 ♂ & ♀ cones  
Tsuga 1 terminal from the  
end of last year's branches  
or (sometimes very short)  
branchlets

Abies ♂ & ♀ cones  
lateral from the ax. of  
of last year's leaves.

Aug 1867



0 1 2 3 4 5 6 7 8 9 10

cm

copyright reserved



MISSOURI  
BOTANICAL  
GARDEN

10390

ALEX. LEITCH  
APOTHECARY & PHARMACEUTIST

COR. 4TH & OLIVE STS. ST. LOUIS

MISSOURI BOTANICAL GARDEN  
GEORGE ENGELMANN PAPERS



0 1 2 3 4 5 6 7 8 9 10

cm

copyright reserved



MISSOURI  
BOTANICAL  
GARDEN